

This report card summarizes water quality and forestry information for the Mud Creek watershed (*the highlighted area on the map below*). This map also shows water quality stations and example environmental improvement locations. For consistency across watersheds, Conservation Ontario has recommended the use of specific water quality and forestry indicators that are described in the following tables. The summary is intended to provide landowners, groups, municipalities and agencies with information to protect, enhance and improve natural features of the watershed. The ongoing monitoring will be reported on a five-year cycle which will help local people manage their natural features. This report card is part of a larger report entitled **The Ausable Bayfield Conservation Authority Watershed Report Card** available at: **www.abca.on.ca**. Further information, including methodology, comparisons to the other 15 Ausable Bayfield watersheds and references are also found in the report.



Mud Creek

Watershed Report Card



Ausable Bayfield Watershed Report Card 2007



Mud Creek Watershed Features



Area:	67 km ² Municipalities: Lambton Shores			
Geology	69% Bevelled Till Plains; 25% Till Moraines; 6% Beaches and Shorecliffs (GIS derived with physiographic maps) (Chapman and Putnam 1984)			
Soils	oils 68% Clay; 15% Sand; 10% Sandy Loam; 5% Loam; 3% Bottomland (County So 1951-1991)			
Land Use	70% agriculture; 24% woodlot; 5% urban; 2% other (OMAFRA 1983)			
Streamside Cover	32% of the 15 metre area on both sides of open streams is vegetated (OMNR 1986, ABCA 1999)			
Wetlands	Existing: 3% (OMNR 2003, ABCA 2004); Potential: 19% (ABCA 2005)			
Natural A1	Port Franks Forested Dunes and Wetland Complex (Port Franks Provincially Significant Wetlands and Bosanquet Environmentally Significant Areas 1, 2 and 5); Ipperwash Provincial Park Earth and Life (Area of Natural and Scientific Interest) ; L-Lake Management Area			
Groundwa	Iter Both shallow (Pinery Aquifer) and bedrock aquifers are found in this watershed. The Pinery aquifer is the most common source of drinking water, and is located within the large deposit of recently deposited sand dunes near the shore of Lake Huron. This important source of drinking water has been sampled and is known to have elevated levels of nitrates, as well as occurrences of E. coli. This aquifer is also an important source of baseflow for the lower portion of Mud Creek. The Bedrock aquifer is known to have elevated levels of sulphates and hardness, making it aesthetically unattractive as a potable water source. A thick sequence, underlying the sandy dune deposits, comprised of mostly fine-grained glacial sediment separates Mud Creek from the bedrock aquifer in this area.			
Fishes	Fish community dominated by warm water baitfish			
	Species at Risk (As determined by the Committee on the Status of Endangered Wildlife in Canada)			
Vegetation: Insects: Reptiles: Birds: Fishes: Mussele:	(SOURCES: Natural Heritage Information Centre, 2006; ABCA 2006) n: Bluehearts, Cucumber Tree, Dense Blazing Star, Dwarf Hackberry, Heart-leaved Plantain, Showy Goldenrod Karner Blue Blue Racer Acadian Flycatcher, Hooded Warbler, Louisiana Waterthrush, Northern Bobwhite, Prothonotary Warbler None identified at this time.			
Mammals:	ammals: None identified at this time.			

Wastewater Treatment Plants None in area.

Mud Creek Forest Cover, Surface Water Quality

Indicator and Description		Mud Creek		Ausable Bayfield Area	
	_	Result	Grade	Result	Grade
Forest Conditions	Forest Cover is the percentage of the watershed that is forested. Environment Canada recommends 30% of a watershed should be in forest cover.	23.7%	В	12.6%	С
	Forest Interior is the area inside a woodlot that some bird species need for breeding. Environment Canada recommends 10% of a watershed should be in forest cover that is at least 100 m from the forest edge.	9.4%	A	2.8%	D
Water Quality	Total Phosphorus is an element that enhances plant growth and contributes to excess algae and low oxygen in streams and lakes. The Ministry of the Environment has established an environmental health objective concentration of 0.03 mg/L.	0.09	В	0.08	В
	E. coli (<i>Escherichia coli</i>) are bacteria found in human and animal waste. Their presence in water indicates the potential for the water to have other disease-causing organisms. The Ministry of Health has established a guideline of 100 cfu (colony forming units)/ 100 mL in recreational waters.	117	С	233	С
	Benthic Invertebrates are small animals without backbones that live in stream or lake sediments. The Family Biotic Index (FBI) summarizes the information about the numbers and types of these animals in a sediment sample. FBI values provide stream health information and values range from 1 (healthy) to 10 (degraded).	7.9	F	5.6	С

Grade	Explanation
А	Indicates excellent ecosystem conditions and protection may be required. Some
	areas may require enhancement.
В	Indicates good ecosystem conditions. Some areas may require enhancement.
С	Indicates ecosystem conditions that need to be enhanced.
D	Indicates poor ecosystem conditions that need to be improved.

F Indicates degraded ecosystem conditions that need considerable improvement.

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Mud Creek Next Steps and Local Successes



To improve forest conditions ...

• High forest scores are related to the Port Franks Forested Dunes and Wetland Complex. Headwater forests are extremely limited in this watershed. Plant trees and shrubs along the headwaters of Mud Creek.

To improve water quality ...

- Protect all wetlands.
- Monitor water quality in the area to ensure that increased domestic water supply does not result in private septic system over-usage and water contamination.
- Plant windbreaks and practise conservation tillage on erosion-prone soils (Programs available through ABCA).
- Fix faulty septic systems and establish a septic maintenance plan.
- Decommission abandoned wells and upgrade existing wells to prevent groundwater contamination.

Other recommendations

• Dunes are a dynamic ecosystem. In periods of low lake levels, sand may build up in front of your residence. These dunes may protect your residence in times of higher lake levels. Check with the ABCA, work around the dunes may require a permit.

• Link the natural areas of the Ausable Gorge with The Pinery Provincial Park and Port Franks.

- ABCA should co-ordinate its efforts with Lambton Wildlife Inc. in this area.
- Continue to support the province's natural heritage

• Manure Management:

- Apply manure at rates and times to optimize crop uptake of nutrients and prevent runoff.
- Monitor tile outlets for contaminants during and following manure application and implement spill contingency plans if necessary.
- Ensure manure storage facilities are adequate and properly functioning.
- Keep records; develop a nutrient management plan (Environmental Farm Plan funding may be available).

policies through local official plans and zoning by-laws (i.e., storm water management, tree cutting bylaw).

• Complete Environmental Action Plans (Farmers see Environmental Farm Plan; Lakeshore residents see Lakeshore Stewardship Manual). A stewardship manual for rural non-farm landowners should be completed by 2007. Contact the ABCA for more information.



Thumbs up!

A multi-agency (Lambton County, Ausable Bayfield Conservation Authority and Lambton Wildlife Inc.) land acquisition has secured the Port Franks Forested Dunes and Wetland Complex.

This is just one example in the watershed – give us a call and tell us about your project.

B Conservation

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